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ABSTRACT

This study was conducted to explore the economic and programmatic implications of school-year program attrition in secondary vocational programs in New Hampshire. The study included students who switched to other vocational programs as well as those who switched to a general academic or a college preparatory curriculum. Interviews were conducted, then 285 questionnaires were mailed to a random sample of program leavers in July 1983. The study concluded that motivations to enter and leave a vocational program are both multidimensional. The primary reasons for program attrition were decisions about career directions, new vocational choices, and related personal decisions. Although demographic factors were relevant, no evidence suggested that program attrition was caused by weak programs or poor teaching, nor that program leavers were poorly motivated to learn. The study recommended that greater emphasis should be put on the role of guidance and counseling prior to program enrollment. (KC)

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MAKING VOCATIONAL CHOICES: A STUDY OF VOCATIONAL PROGRAM ATTRITION IN NEW HAMPSHIRE

Prepared for the
Research Coordinating Unit
Division of Vocational-Technical Education
New Hampshire State Department of Education
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Gregory Herr
Study Director

EXECUTIVE SUMMARY

Purpose of the Study

The present study was conducted to explore the economic and programmatic implications of school-year program attrition in secondary vocational programs. School-year program attrition was defined as leaving a vocational program prior to completion during the regular school year. The study included students who switched to other vocational programs during the year as well as those who switched to a general academic or a college preparatory curriculum.

Methods

The research was conducted in two phases. In the first phase, program leavers from schools were interviewed in June of 1983 to determine their attitudes toward vocational programs, their reasons for entering and their reasons for leaving. In the second phase, questionnaires were mailed to 285 program leavers in July, 1983. The participants for this phase of the study were selected on the basis of a carefully-developed stratified random sampling plan to ensure adequate representation of both male and female program leavers and both large and small vocational programs. Although the response rate was lower than expected, the sample was judged to be adequate in relation to the research questions.

Results

The following pattern of results was obtained from the questionnaire survey of school leavers.

Educational Patterns

- In vocational courses, the grade point average of male leavers was 2.86, and grade point average of female leavers was 3.14, a statistically significant difference.
- Over half the program leavers stayed in school. 38.6% left school altogether; another 6.8% also left school but did so in order to work.
- Approximately 75% of the sample had plans for further education or training.

Employment Patterns

- At the time the survey was conducted, 83.7% of the program leavers were employed. Many had part or full-time permanent jobs.
- Males were earning an average of $4.40 per hour; females were earning an average of $3.77 per hour.

Attitudes Toward The Vocational Program

- Females tended to have slightly more positive attitudes overall, but not to a statistically significant degree.
- Males were much more likely than females to express regret about leaving the program.
- Females were somewhat more likely than males to feel that they were learning useful skills in the program.
- Females tended to have expectations about the program which were more consistent and accurate than did males.
- Males were a little more likely to feel disinterested during the program than were females.

- Males and females both had very positive views of their instructor's teaching skills and abilities.
- Females had positive opinions of the overall management of instruction; males' opinions were not as positive as were those of the females.
- Males and females both felt that the student-teacher interactions in their vocational class were positive and helpful.
- Males had slightly more ambiguity about their vocational program than did females.
- The overall attitude toward the program was very positive for males and females.
- Once in the program, males were a little more likely to change their opinions and attitudes toward the program than were the females.
- Both males and females believed the program would help them accomplish other goals and would be of value to them in the future.

Factors Affecting Program Entry

- Some students are influenced by career concerns to enter a vocational program; others enter because they believe it to be enjoyable. There is no single reason why students enroll in vocational programs.
- The reasons for entering a vocational program do not appear to differ on the basis of sex of the student.
- Students are most likely to seek the advice of: 1) a friend; 2) a vocational teacher; 3) a parent; or 4) a school guidance counselor before enrolling in a vocational program.

Factors Affecting Program Exit

- Students report that their primary reasons for leaving a vocational program are changes in career goals.
- Before leaving a program students are most likely to discuss their decision with: 1) a school guidance counselor; 2) a friend; 3) a parent; or 4) a vocational teacher.
- Economic factors appear to have relatively little influence in a student's decision to leave a vocational program.

Predicting Program Exit Motivation

- Demographic factors are related to program exit motivation.
- Academic factors are unrelated to some facets of motivation to leave but highly related to other aspects.
- Communication factors are related to program exit motivation.
- Entry Motivation factors are highly related to exit motivation factors.
- Economic factors are not very strongly related to exit motivation, in general.

Conclusions and Recommendations

Conclusions Regarding the Research Questions

1. Are motivation to enter and motivation to leave a vocational program unified (unidimensional) concepts, or are they more complex (multidimensional) concepts?

   Conclusion: Both motivation to enter and leave a vocational program are multidimensional concepts. We derived three variables for each of the two kinds of motivation (although the number derived was somewhat arbitrary).

2. What are the factors which affect motivation to leave a vocational program during the school year?

   Conclusion: Our analyses showed that background (demographic) factors affected all three facets of motivation to leave. Academic, Communication and Program Entry Motivation factors influenced various facets. The Economic factor was a minor influence. When we asked students why they entered and why they left, we found, surprisingly, that they could pinpoint the reeasons for entry quite clearly but not as clearly the reasons for leaving. Given this fact, coupled with students' actual responses and the findings of Profile Development Associates (1982), we conclude that the primary reasons for program attrition during the school year and during the summer alike are

decisions about career directions, new vocational choices and related personal decisions. There is no evidence to suggest that program attrition is caused by weak programs or poor teaching on a program-wide basis, nor is there any evidence that vocational program leavers are poorly motivated to learn.

3. Is the vocational student's motivation to enter a vocational program related to his or her motivation to leave a program?

Conclusion: Overall, males and females did not differ systematically in these areas. Where there were occasional small differences, those differences could be attributable to sampling error (e.g., small sample size) rather than to true differences in the population of program leavers. Even the rather large mean differences in pay for those programs who are currently working cannot be considered statistically significant. That is, it cannot be inferred that large differences in the total population of 1981-1982 program leavers do indeed exist.

Recommendations

- The role and influence of guidance and counseling should receive greater emphasis on a program-wide basis, especially in pre-enrollment counseling.
- The Research Coordinating Unit should review the categories of termination codes and their definitions. The data collection procedures for determining student status should be refined.
- Further research to explore the motivational factors in program attrition should be continued.

Section I
INTRODUCTION

Orientation to the Issues

Student attrition is a phenomenon which has troubled education more in recent years than ever before. The phenomenon is a national as well as a regional one. Some view attrition (dropping out of school) as a problem with students, assuming that the caliber of students is diminishing with time or that there is some inadequacy of ability or motivation within the student. Others view attrition as a system problem: that schools have decreased in their "holding power" and have less and less to offer the students - unmotivated teachers, scarce materials, and a host of other woes. However polarized or divided, the problem is not a simple one, and we should avoid the trap of blaming either the students or the educational system exclusively.

While much research effort has been placed on predicting, preventing and otherwise controlling the school attrition problem, there are other attrition issues to be dealt with. Vocational program attrition is one of these issues. A student may leave a vocational program yet stay in school. He or she is not a "school dropout" yet may be gaining little from the general educational program. At any point in time we need to determine not only what program a student has left, but what program, courses, or activities were substituted in its place. We need further to view the student as a person and the vocational program as one small segment of his or her career development. Is it "bad" if a student drops out of a vocational program? While

our immediate reaction may be to judge that the program has failed the student, there are alternative plausible explanations. Perhaps the same student enrolled in another vocational program which he or she finds more satisfying. Or perhaps the student switched to a vocational program which does not offer all the satisfaction the student wants but holds promise for a much greater salary upon entry into the job market. The central point is simply that leaving a vocational program before completion is not always a poor choice. The choice must be viewed within the overall context of the person's needs, strivings and goals.

Scope of the Program Attrition Problem

The Division of Vocational-Technical Education, New Hampshire State Department of Education, has developed procedures for monitoring vocational program attendance on a statewide basis through the Research Coordinating Unit (RCU). In September and June of each school year, enrollment and termination data are collected from all students who have been enrolled in a vocational education program via the Vocational Education Management Information System. Information for the 1981-1982 school year, which is the major focus of this report, was compiled through this computerized data collection system. The RCU has determined that 27.5% of the students who were enrolled in a vocational education program during the 1981-1982 school year left the program before completion. A more detailed breakdown of this figure is given in Table 1-1.

Table 1-1
1981-1982 School Year Vocational Program Leavers' Reasons for Termination

Termination Reason	Program Leavers Number	Program Leavers Percent	Percent of Total Enrollment Leaving
School Completer - completed high school but not the vocational program	881	26.3	7.3
Transferred - within school/institution to another program	1,036	31.0	8.5
Transferred - to another school/ institution	216	6.5	1.8
Withdrew - unsatisfactory academic performance	306	9.1	2.5
Withdrew - economic reasons	80	2.4	0.7
Withdrew - reason known but not covered above	337	10.1	2.7
Withdrew - reason unknown	489	14.6	4.0
TOTALS	3,345	100.0	27.5

Note. Data for this table was adapted from Table 2 of RCU Report 1982-13, which was obtained from the Research Coordinating Unit, Division of Vocational-Technical Education.

Table 1-1 shows that 881 students, or 26.3% of the leavers, completed high school but did not complete the vocational program. More than a thousand students (31%) transferred within the school to another program (either vocational or non-vocational).

A much smaller percentage (6.5% or 216 students) transferred to another school. Together these three categories account for 63.8% of the program leavers. The remaining 36.2% withdrew for a variety of known and unknown reasons.

Purpose of the Present Research

The data in Table 1-1 informs us of the numbers of students who left vocational programs during the 1981-1982 school year but not why they left. Was the quality of teaching low at certain vocational centers, or was the class size too large to permit sufficient attention to the individual? Was some self-selection process at work? Could the attrition be traced to poor motivation or lack of responsibility on the part of students? Our major task was to determine the reasons for leaving New Hampshire secondary vocational programs. We began this research without any assumptions or value judgements about the program attrition process. We did not want to fix blame upon students or upon schools but rather wanted to understand a process which we suspected was a complex one.

Research Strategy

Many research projects employ a single data-gathering method. The results of any such project are therefore influenced by the strengths, weaknesses and biases of the method used. We realized that a mailed survey in June or July would be risky because of a possible low response rate. On the other hand, we lacked the budget needed to gather data from a large number of students in a face-to-face interview situation.

To minimize the risks of obtaining little useful data, we decided to conduct the study in two phases. The first phase would be exploratory. This phase would be characterized by a purposive lack of explicit hypotheses and the method of data-gathering would be the personal semi-structured interview. During this phase we would become more familiar with the students themselves through personal contact and would gain knowledge to help us generate more appropriate research questions.

The second phase would be confirmatory. This phase would be characterized by a specific set of research questions, more or less suggested by our initial efforts. The method of data-gathering would be the mailed questionnaire sent to students on a stratified random sampling basis. During this phase we would gather more concrete data which would help to confirm (or fail to confirm) our earlier questions.

Findings From Previous Research

While there have been many attrition studies done nationally over recent years, few end up in the published literature (books, journals). Most are technical reports which are not formally published but are disseminated in other ways. If we were to locate these studies, we believed that the Educational Resources Information Clearinghouse (ERIC) would contain most of the noteworthy studies completed by state departments of education or by private research organizations. A manual search of the published vocational education literature turned up nothing of relevance to our study of program leavers. We then conducted a

computer-assisted search of the ERIC database. The search yielded abstracts of 51 studies which were reviewed to determine whether the studies might be useful to us. After this initial screening, 21 original source documents (on microfiche) were obtained. We found that:

- Few studies have been completed within the past 2-3 years.
- Most studies were at the post-secondary level.
- Most studies explored school attrition, not program attrition.
- Many documents described programs which were operational but were for special segments of the population. Typically little or no evaluative data was given.
- Less than half a dozen documents were at all relevant to our needs.

Spooner (1980) studied vocational education program non-completion at the secondary level in Colorado. He determined that there were 3,750 non-completers of the 1978-1979 vocational education program. Two types of students were studied: no shows, who never attended class, and non-completers, who failed to complete more than half the program requirements. Questionnaires were sent to 400 non-completers and 217 were returned, for a return rate of 67%. Questionnaires were also sent to guidance counselors and administrators. Some of the findings of the study were:

1. In ethnic origin, sex and grade, non-completers resembled the general enrollment.
2. Non-completers were equally distributed throughout all program areas. There were slightly fewer non-completers in business/office occupations.

3. There were more non-completers in local high school programs than in programs at area vocational schools.

4. The major reasons for leaving Colorado vocational programs were a) leaving school entirely; b) moving; c) expectations about the program not being met. Administrators were found to attribute non-completion to "dropout proneness" or lack of interest on the part of students.

5. The type of enrollment procedure used in various vocational programs (formalized vs. first-come-first-served) was unrelated to the completion rate. Administrators were likely to attribute some of the problem to weak vocational guidance and counseling.

6. Pre-program experience in a vocational area was correlated with the completion rate.

7. Handicapped students were more likely to be non-completers than were non-handicapped students.

Profile Development Associates (1982) conducted a study of factors affecting vocational program attrition in New Hampshire. Even though their focus was on summer attrition, their work is very relevant to the present study.

Profile Development Associates (PDA) developed an interview format containing 65 questions in four categories: background, organizational, environmental, and attitudinal/outcome variables. They interviewed 67% of the population of interest: those students who had "completed the first year of a vocational program, enrolled in the next sequential course of the vocational program, and then for some reason did not participate in the second year course after summer was over (p. 60)."

On the basis of data presented by PDA[1], the following state

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[1]These statements were prepared by the present writer after inspecting the frequency distributions of interview items on pages 62-72 of the PDA report.

ments can be made about the responses of the interview sample.

- Fifty-three percent were in school in an academic program; 41% were in school in another vocational program; the remaining 6% were out of school.

- A little less than half the sample (45%) reported seeking guidance before leaving the vocational program. Only 28% of the sample reported using vocational guidance services prior to leaving the vocational program.

- The overall high school GPA of the sample was 2.5. The GPA of the same students for vocational courses alone was 2.8.

- Forty-one percent of the sample reported leaving the program because of a new decision about their career.

- Forty-nine percent of the sample reported a discrepancy between what they thought would happen in the program and what actually did happen in the program.

- Students reported entering the vocational program for the following reasons (in rank order):

1	Job opportunities (39%)
2	Pre-vocational experience (22%)
3	Counseling (12.2%)
4.5	Friends (9.8%)
4.5	Visit to the vocational center (9.8%)
6	Word of mouth (7.3%)

- Students reported leaving the vocational program for the following reasons (in rank order):

1	Other reasons not listed (19%)
2	New vocational interest (15%)
3	Change in career goal (14%)
4	Poor teacher (10%)
5	Could not do work in class (9%)
6.5	New opportunities in school (7%)
6.5	Gained all the skills needed (7%)
9.5	Discipline problem (3%)
9.5	Poor facilities (3%)
9.5	Parental influence (3%)
9.5	Peer influence (3%)
12	Transportation (2%)

The data from this study, the most recent of New Hampshire's vocational program attrition studies, suggest that:

- Most New Hampshire program leavers are not school leavers.
- Many program leavers do not seek guidance before leaving vocational programs.
- Program leavers as a group are "C" students.
- Many New Hampshire vocational students report discrepancies between the expected program and the actual program.
- The number of job opportunities and previous experience in a vocational area are major factors which influence a student's decision to enroll in a vocational program in New Hampshire.
- A large percentage of students leave New Hampshire's vocational programs because of career decisions or shifts in vocational interests, not because of program inadequacies or low motivation.

Section II
THE STUDENT INTERVIEWS

Research Questions

We approached the student interviews with some very general questions in mind. We wanted to explore certain issues but not to miss important information because we were concentrating on a few narrow issues. We primarily wanted to determine why students left vocational programs or switched to other vocational programs during the school year. Secondly, we wanted to become familiar enough with the students as a group so we would be able to formulate more appropriate questions in the second phase of the project.

Method

Sampling. In this phase of the project, we were interested in interviewing mostly "switchers" - students who had changed vocational programs during the regular school year. We decided to select ten students at four sites: Berlin, Wolfeboro, Somersworth and Portsmouth. These sites were chosen in conjunction with the RCU director on the basis of geographical location and type of vocational programs offered. Once these sites had been selected, we identified all School Completers and Program Switchers (termination codes of 03 and 04). From this pool we selected students in a quasi-random fashion, attempting to get a mix of males and females and also a mix of program types.

Instrumentation. A student interview form was developed as a guide for the interviewers. The interview form, which can be found in Appendix A, contained both closed-format and open-format questions. We chose to ask questions about program entry and exit in an open format. Other motivational and attitudinal questions were cast in a closed format. In this manner we were able to pretest a number of items for later use in the survey questionnaire.

Procedure. Vocational directors were contacted several weeks before the interviews and informed of the purpose and time line of the interview process. In conjunction with the individual vocational centers, a date was selected for each site. Then interview rosters were sent to the appropriate vocational education personnel, who scheduled interviews for each student on the designated day. When it was not possible to interview a student who had been preselected, the coordinator tried to obtain a replacement. This was possible in many, but not all, cases.

All interviews were conducted by the Project Director and Research Associate. The Project Director conducted the interviews at Berlin and Wolfeboro on June 2 and June 9 respectively, and the Research Associate conducted the interviews at Portsmouth and Somersworth on June 3 and June 8. Interviews were conducted individually, and they averaged fifteen minutes in length. Following the interviews, the interviewers met to discuss common perceptions or "themes" that seemed to be emerging from the interviews.

Results for Portsmouth and Somersworth

Reasons for Entering

Students were asked why they had enrolled in the vocational program from which they had been listed as leavers. All who were interviewed related at least one reason. Reasons for enrollment are summarized and listed below by school.

Table 2-1
Reasons for Enrollment at Somersworth High School

Reasons	Number of Students
Learn a skill (to type)	4
Increase employment opportunities	1
Outside influence by family/friends	1

Four of the six students interviewed stated their reason for enrollment was to learn a specific skill (in these cases, typing). Of these four, one student decided to enroll in typing because of the influence of a teacher, another was influenced by a friend, and the other two students enrolled without outside advice. The one student who enrolled in a vocational course to increase her chances for employment chose a distributive education class without any outside advice. The other student also enrolled in a Somersworth Distributive Education class on the advice of a sister who had completed the course and had enjoyed it.

Table 2-2
Reasons for Enrollment at Portsmouth Sr. High School

Reasons	*Number of Students
Learn a skill	3
Scheduling concerns and school credit	3
Pursue a specific interest	6

*Students stated more than one reason

Three of the ten students interviewed enrolled in a vocational course to learn a specific skill. The skills to be learned included a specific skill. The skills to be learned included child care, arc welding and typing. Three other students enrolled in a vocational program because of scheduling and/or school credit concerns. A student enrolled in typing because she needed credit, and her guidance counselor recommended learning to type. Another student opted to take a building trades course when he realized that automotive shop was not available to him as a sophomore. A third student enrolled in auto shop when he realized that all his academic requirements were completed and there was room in his school schedule.

The most frequently stated reason for enrolling in a specific vocational course was to pursue a specific interest. Interest areas stated included car basics (three students), general merchandising and child care (two students each).

Seven of the ten students indicated that the decision to enroll in a specific course was their own. Three who received advice about course enrollment all enrolled in different courses

and were influenced by either a friend, a brother or a guidance counselor.

Program Changes

Each student was asked what course he/she had scheduled to replace the vocational course which he/she had left. Answers varied according to individual circumstances. Some students opted to drop a course after only one semester of a two semester series and enroll in another vocational program. Other students indicated that they had not enrolled in another vocational program because the course they had taken was completed in full and their schedules became filled with academic demands outside the vocational area.

At Somersworth, two students remained enrolled in the vocational education department but switched from one program to another. One student left after one semester of typing and enrolled in a Distributive Education class (general merchandising skills). His reason for leaving typing after one semester was that the work pace was too fast in typing and he felt he wasn't able to keep up with the other students. The other student who remained enrolled in the vocational department completed courses offered in Distributive Education I but was unable to fit Distributive Education II into her schedule. The course required a two-period-a-day commitment and she needed to take other courses to graduate. This student opted to enroll in a commercial foods course which met one period per day.

Four Somersworth students left a vocational course and did not enroll in another. Three of these students had been enrolled in typing and one in Distributive Education. One typing student and the Distributive Education student did not continue the vocational course because it created a schedule conflict with other academic courses necessary for graduation. The other two typing students felt that they had learned the skills sufficiently to stop and that secretarial skills was not an area they wished to pursue.

Student Attitudes

Program leavers were asked to respond to a series of statements concerning the program which had been dropped. Each was asked whether they strongly agreed, agreed, disagreed or strongly disagreed with the statement which was read by the interviewer. To summarize these responses and to find a general student attitude each response was given a numerical value as follows: strongly agree, 4; agree, 3; disagree, 2; strongly disagree, 1. An average for each statement was derived. These averages are discussed below by school and by statement category.

CATEGORY A. Instructors and Teaching Style

Students were read several statements pertaining to their course instructor and his/her teaching style. The reactions are summarized by school on the following pages.

B 1. The instructors were knowledgeable and well informed.

School	Average Response
Somersworth	3.5
Portsmouth	2.9

Program leavers from both schools agreed that their instructors appeared to be knowledgeable in their subject area. Approximately 45% of the students responding from Somersworth strongly agreed with that statement, while 10% strongly agreed at Portsmouth.

B 2. The instructors knew how to get the material across to the students.

School	Average Response
Somersworth	3.2
Portsmouth	2.8

Students from both high schools either agreed or strongly agreed with that statement. Of all leavers interviewed, only one felt the statement was inaccurate.

B 4. The instructors gave enough individual attention to students.

School	Average Response
Somersworth	3.5
Portsmouth	2.3

Overall, Somersworth program leavers agreed with the statement above. Two students, however, or one-third of those interviewed, disagreed. Over one-half of the program leavers interviewed from Portsmouth High School disagreed or strongly disagreed with the above statement.

B 5. The instructors established good relationships with most students.

School	Average Response
Somersworth	3.3
Portsmouth	2.9

All students at Somersworth High School either agreed or strongly agreed that their instructors were able to establish a good relationship with the students. With only two exceptions students at Portsmouth High School also agreed with the statement.

B 6. The instructors taught valuable skills.

School	Average Response
Somersworth	3.2
Portsmouth	3.2

Overall, students at both high schools agreed that the instructors were teaching skills that were valuable to them.

B22. The instructors were enthusiastic about the subjects they taught.

School	Average Response
Somersworth	3.7
Portsmouth	2.9

Students from both high schools agreed with this statement. Over half the program leavers at Somersworth High School strongly agreed that the instructors were enthusiastic while all but one student from Portsmouth agreed with this statement.

Summary. Overall, program leavers from both high schools agreed that class instructors for the vocational program which they had left were able to get the material across to students and were enthusiastic about the subjects. Program leavers also agreed that the teachers were able to establish good relationships with students and that the skills they were taught by these instructors were valuable. Only Portsmouth High School program leavers indicated that they might have received more individual instruction in their courses.

CATEGORY B. Class Structure, Planning and Materials

Program leavers were asked to react to a series of statements regarding the structure, planning and materials of the class which they had left. Results are summarized on the following page by statement.

B 3. The instructors appear to have planned things well enough ahead of time.

School	Average Response
Somersworth	2.8
Portsmouth	2.7

Although most students in Somersworth and Portsmouth High Schools tended to agree with the statement above, approximately one third of the program leavers indicated that things were not planned well enough ahead of time.

B 7. There was very little wasted time in the program.

School	Average Response
Somersworth	2.8
Portsmouth	2.7

In general most students agreed with the statement above. Two students in each school disagreed and two students strongly disagreed that little time was wasted.

B23. I received the kind of guidance I needed.

School	Average Response
Somersworth	3.2
Portsmouth	2.5

Somersworth High School program leavers overall agreed that they had received the necessary guidance. Two students strongly

agreed with the statement. Portsmouth students were evenly divided on this. When comparing those who agreed with those who disagreed, no particular pattern emerged as to the vocational program which did or did not provide adequate guidance.

B24. The quantity of supplies and materials was sufficient for learning.

School	Average Response
Somersworth	2.8
Portsmouth	2.5

Most of the students in both high schools felt that the supplies and materials available to them for classwork was sufficient for learning. A minority of students in each school, however, disagreed strongly with the statement. Again no particular pattern emerged when analyzing the classes in which supplies and materials were thought to be insufficient. Each student in disagreement with the statement was from a separate vocational area and course.

B25. The equipment which was available was up to date.

School	Average Response
Somersworth	3.0
Portsmouth	2.6

The majority of students in both high schools judged the equipment available to them to be up to date. Two students from

Somersworth and three from Portsmouth disagreed. With only one exception, the program leavers who disagreed with this statement also disagreed with the statement that supplies and materials were available for learning.

Summary. Somersworth High School program leavers, overall, agreed with most statements concerning class structure, planning and materials. They most strongly agreed that they had received adequate guidance in their class and had up-to-date equipment available for their use. Portsmouth program leavers were more divided in their opinions in this category. Statements concerning guidance received and equipment available were the least agreed upon.

CATEGORY C. Reasons for Entering the Program

B26. I enrolled in the program because I really wanted to.

School	Average Response
Somersworth	3.5
Portsmouth	2.9

With only one exception, all program leavers interviewed at both schools agreed with this statement.

B 9. The number of courses offered in my program area was sufficient.

School	Average Response
Somersworth	3.0
Portsmouth	3.1

With only one exception all students interviewed agreed with this statement.

Summary. Most program leavers interviewed agreed that they had enrolled in the vocational course because it was a course they had wanted, and opportunities were sufficient to pursue an adequate number of courses in that program area if so desired.

CATEGORY D. Reactions Prior to Leaving

Each program leaver was asked to react to a series of questions on how they felt about the class while they were enrolled. Each is summarized below by statement.

B10. Most of the time I felt bored and unmotivated.

School	Average Response
Somersworth	2.2
Portsmouth	2.3

Most students tended to disagree with this statement. However, reactions varied widely. Two of the six students at Somersworth High School agreed that they were bored and unmotivated while, four out of the ten students from Portsmouth agreed or strongly agreed that this was so. One student who agreed strongly that she was bored had enrolled in a Child Care I course planning on a future in the field, but soon discovered that she did not like the area of study.

B11. During the program I lost interest in what I was there to study and learn.

School	Average Response
Somersworth	1.8
Portsmouth	2.5

Somersworth High School students tended to disagree with this statement, while Portsmouth students were divided in their response. Those who agreed with this statement were the same students who indicated in the previous statement that they had felt bored and unmotivated.

B12. I was generally happy in the program.

School	Average Response
Somersworth	3
Portsmouth	2.7

All students from Somersworth High School agreed with this statement. Portsmouth High School students, again, varied widely in their reactions. Four students from Portsmouth indicated that they were not happy in the program while the rest either agreed or agreed strongly with the statement above.

B19. I felt that I was learning useful skills in the program.

School	Average Response
Somersworth	3.5
Portsmouth	2.9

All students from Somersworth High School agreed or strongly agreed with this statement. With only one exception, all Portsmouth program leavers agreed that they were learning useful skills.

B20. The program was a lot different than I expected.

School	Average Response
Somersworth	2.5
Portsmouth	2.5

Program leavers in both schools were evenly divided between agreeing and disagreeing with this statement.

B21. I was unsure about the program when I enrolled.

School	Average Response
Somersworth	2.5
Portsmouth	2.5

Again, program leavers from both schools were evenly divided when reacting to this statement. One half of all students knew what to expect from the program in which they enrolled while the other half were unsure about what to expect.

B27. My feelings about the program changed after a while.

School	Average Response
Somersworth	2.5
Portsmouth	2.9

Over half the students in each high school agreed with this statement. However, a few students from each high school disagreed or strongly disagreed that their feelings had changed.

B29. In the program I was with others who were a lot like me.

School	Average Response
Somersworth	3.0
Portsmouth	2.7

With the exception of one student from Somersworth and three from Portsmouth, all students agreed with this statement.

B30. Often I felt out of place in the program.

School	Average Response
Somersworth	1.8
Portsmouth	2.3

With one exception, all students from Somersworth disagreed with this statement. Three of the ten Portsmouth program leavers agreed that they had felt out of place in the program.

Summary. Although most program leavers indicated that they were generally happy in the program and felt they were learning useful skills, there are indications that some of the program leavers (particularly from Portsmouth High School) found that the programs were different from what they had initially expected. Several students also indicated that they had lost interest in

what they were there to study and learn. Over half the program leavers from each school agreed that they had been unsure about the programs when they enrolled and experienced a change in feelings about the program as they attended. There is little indication that students felt out of place in the program or that they considered other students different from them.

CATEGORY E. Retrospective Reactions

Program leavers were asked to react to a series of statements pertaining to how they feel now about the vocational program which they had left. The reactions are summarized below by statement.

B15. I sometimes regret my decision to leave the program.

School	Average Response
Somersworth	2.0
Portsmouth	2.1

Most students from each school disagree with this statement. This general disagreement is most likely a result of several students who became classified as program leavers when they enroll in one or two semesters of a course (such as typing), then opt not to go on in that vocational field for a variety of reasons.

B16. I'll be able to use some of the skills I learned at some time in the future.

School	Average Response
Somersworth	3.5
Portsmouth	3.1

With only one exception all students from both high schools agreed that they will be able to use their skills sometime in the future.

B17. I probably shouldn't have enrolled in the program in the first place.

School	Average Response
Somersworth	1.5
Portsmouth	1.6

With only two exceptions (one from each school) all students disagreed with this statement.

B18. My time in the program helped me decide that the area was not the right area for me.

School	Average Response
Somersworth	2.0
Portsmouth	2.6

Two thirds of the program leavers from Somersworth High School disagreed or strongly disagreed with this statement, while less than half disagreed from Portsmouth. Disagreement was for one of two reasons. First some disagreed because they were still considering the program area as a possibility for future classes

and/or employment. The other category of disagreement was from students who never considered the program area as a possible subject area to pursue for employment. Rather, these students enrolled in a vocational program, only to learn a specific skill (such as typing) before returning to academic, college preparatory classes.

B28. Now my overall opinion of the program is positive.

School	Average Response
Somersworth	3.0
Portsmouth	2.8

Most students agreed with this statement. The only exceptions were three program leavers from Portsmouth.

Summary. The retrospective view of the vocational programs which students had left was, overall, extremely positive. Generally, students do not regret leaving their respective programs, however, they also are not sorry that they had enrolled. Almost all program leavers felt that the skills they had learned would be useful in the future and that overall their opinions of the various vocational programs was positive.

CATEGORY F. Reasons for Leaving the Program

Students were asked to react to three statements regarding any external reasons or pressures which might have caused them to leave the program. Each statement is summarized as follows:

B 8. Transportation was a problem for me.

School	Average Response
Somersworth	1.0
Portsmouth	1.3

Almost all students strongly disagreed with this statement.

B13. Money was an important factor in my leaving.

School	Average Response
Somersworth	1.5
Portsmouth	1.5

Almost all students disagreed with this statement.

B14. My parents or other family members influenced me to leave the program.

School	Average Response
Somersworth	1.8
Portsmouth	1.5

All program leavers interviewed either disagreed or strongly disagreed with this statement.

Summary. Transportation, money and/or parental pressure appear not to have had an impact on student decisions to leave a program.

Results for Berlin and Wolfeboro

Reasons for Entering

Students were asked why they had enrolled in the vocational program. Their reasons as given in the table below.

Table 2-3
Reasons for Entering a Vocational Program
(Berlin and Wolfeboro Combined)

Reason	Primary Reason	Secondary Reason
For his/her own understanding; wanted to learn it	4	2
Liked it; interested in it; did well in it	5	3
Knew someone in the course	1	0
Job or career possibility	1	1
Second choice	1	1
Considered it as second major in college	1	0
Save money (by doing it yourself)	0	1

Sixty-nine percent of the students interviewed at these two sites, for the most part, entered the program (which they had since left) because of their intrinsic desire to learn and because of their ongoing interest in the area. Relatively few of the students gave reasons such as "I knew someone in the program" or "it was my second choice."

Reasons for Leaving

Students were also asked for the specific reasons why they left the program. Their responses are listed below.

Table 2-4
Reasons for Leaving a Vocational Program
(Berlin and Wolfeboro Combined)

Reason	Primary Reason	Secondary Reason
Poor grades; excessive absence	2	0
Asked to leave	2	0
Did not leave	2	0
Program didn't interest him/her	1	0
Another program/course was more interesting	2	1
Lack of course content; wasn't learning	2	0
Didn't get along well with teacher	0	1
Schedule conflicted with job	1	0
Poor learning environment due to other students	1	0

The responses reveal the complexity of the problem: there are many reasons why students leave programs. Interestingly, some were asked to leave and some did not know that they were no longer enrolled in the program. The reasons run the gamut of educational and social reasons. Three of the students (23%) reported switching to another vocational program; 46% reported

switching to a general academic course; more reported switching to college preparatory courses.

Student Attitudes

In this section, the student attitudinal items will be presented and discussed by category and site.

CATEGORY A. Instructors and Teaching Style

Table 2-5
Averages for Category A Items

Item	Average Rating[a] Berlin	Wolfeboro
B 1. The instructors were knowledgeable and well informed.	3.7	3.3
B 2. The instructors knew how to get the material across to the students.	3.2	3.3
B 4. The instructors gave enough individual attention to students.	3.0	3.0
B 5. The instructors established good relationships with most students.	3.2	3.4
B 6. The instructors taught valuable skills.	3.8	3.3
B22. The instructors were enthusiastic about the subjects they taught.	3.3	3.4

[a]The scale used was: 4 = Strongly Agree; 3 = Agree; 2 = Disagree; 1 = Strongly Disagree

Of all six items which measured aspects of instruction, none of the averages were low enough to cause concern. It is evident that the leavers interviewed at Berlin and Wolfeboro had high regard for their vocational teachers. At Berlin this was especially true. Almost all Berlin leavers believed the instructors to be very knowledgeable, well-informed, and enthusiastic.

CATEGORY B. Class Structure, Planning and Materials

Table 2-6
Averages for Category B Items

Item		Average Rating Berlin	Wolfeboro
B 3.	The instructors appear to have planned things well enough ahead of time.	3.0	3.3
B 7.	There was very little wasted time in the program.	2.8	3.1
B23.	I received the kind of guidance I needed.	2.8	3.3
B24.	The quantity of supplies and materials was sufficient for learning.	3.7	3.0
B25.	The equipment which was available was up to date.	3.3	2.7

Items in this category were also favorably answered by students. Students at Berlin praised the quantity of supplies and materials but apparently felt that the guidance they received could be improved. At Wolfeboro the rating on B25 suggests that some

students perceive the equipment as old and outdated in some vocational programs. Overall, these ratings did not point to any areas of major concern.

CATEGORY C. Reasons for Entering

Table 2-7
Averages for Category C Items

	Item	Average Rating Berlin	Wolfeboro
B 9.	The number of courses offered in my program area was sufficient.	3.6	3.1
B26.	I enrolled in the program because I really wanted to.	3.7	3.6

As is evident from these ratings, students at both sites reported a high degree of internal motivation to enter the vocational program. Students at both sites viewed the course selection as adequate or better than adequate.

CATEGORY D. Reactions Prior to Leaving

Table 2-8
Averages for Category D Items

	Item	Average Rating Berlin	Wolfeboro
B10.	Most of the time I felt bored and unmotivated.	2.0	1.4
B11.	During the program I lost interest in what I was there to study and learn.	2.0	2.0
B12.	I was generally happy in the program.	3.5	3.1
B19.	I felt that I was learning useful skills in the program.	3.5	3.6
B20.	The program was a lot different than I expected.	2.5	2.0
B21.	I was unsure about the program when I enrolled.	2.3	2.3
B27.	My feelings about the program changed after a while.	2.8	2.4
B29.	In the program I was with others who were a lot like me.	3.3	2.9
B30.	Often I felt out of place in the program.	1.5	1.7

Students generally reported being happy in the program. They did not report being bored or losing interest, nor did they feel out of place. Students at both sites felt quite strongly that they were learning useful skills in the program.

CATEGORY E. Retrospective Reactions

Table 2-9
Averages for Category E Items

	Item	Average Rating Berlin	Wolfeboro
B15.	I sometimes regret my decision to leave the program.	3.0	3.0
B16.	I'll be able to use some of the skills I learned at some time in the future.	3.5	3.7
B17.	I probably shouldn't have enrolled in the program in the first place.	1.5	1.3
B18.	My time in the program helped me decide that the area was not the right area for me.	2.5	1.8
B28.	Now my overall opinion of the program is positive.	3.6	3.3

It is interesting to note that most students had some regrets about leaving the program (B15), and few believed that they should never have entered in the first place. Students at Berlin were more likely to believe that the time spent in the program was valuable even if they eventually selected another vocational area. The majority of leavers had positive opinions of the program after leaving.

CATEGORY F. Reasons for Leaving the Program

Table 2-10
Averages for Category F Items

Item		Average Rating Berlin	Wolfeboro
B 8.	Transportation was a problem for me.	a	a
B13.	Money was an important factor in my leaving.	a	2.1
B14.	My parents or other family members influenced me to leave the program.	a	1.4

[a]In Category F, there were too few responses at Berlin to average accurately.

Students at Wolfeboro said that the need for money was not an important factor in leaving the program. They also reported being fairly free of parental influences when making the decision to leave the program.

Section III
THE STUDENT SURVEY

In order to obtain information which would allow us to make inferences about the entire population of students who left a vocational program during the 1981-1982 school year, a mailed survey was conducted during June, 1983. In this section, the research questions will be stated, the methods and procedures summarized, and the results presented.

Research Questions

1. Do males and females differ systematically in demographic, economic, attitudinal, motivational and other variables under study?
2. Is the student's motivation to enter a vocational program related to his or her motivation to leave a program?
3. Are motivation to enter and motivation to leave a vocational program unified unidimensional concepts, or are they more complex (multidimensional)?
4. What are the factors which affect motivation to leave a vocational program during the school year?

Method

Sampling

Population. The population under study consisted of all vocational students who had been identified by the Division of Vocational-Technical Education as 1981-1982 school year program leavers at ten sites. The Division obtains this information at the end of each school year by sending a student data form to each vocational center. Directors are asked to determine the continuation status of each identified vocational student. According to the information supplied by the Vocational Termina-

tion Report, there were 1,043 students who left vocational programs during the school year. Of this total 605, or 58%, were males; the remaining 438 (42%) were females. Table 3-1 shows the population size broken down by school and sex of student.

Table 3-1
Sampling Specifications for Mailed Survey

School	Males			Females		
	Leaver Population Size	Sample Size Needed	Sampling Factor	Leaver Population Size	Sample Size Needed	Sampling Factor
Berlin H. S.	28	7	.250	25	7	.280
Kennett H. S.	53	15	.283	27	7	.259
Exeter Area H. S.	72	20	.277	38	10	.264
Alvirne H. S.	123	34	.277	85	23	.271
West H. S.	23	6	.261	38	11	.290
Nashua H. S.	18	5	.278	3	1	.333
Portsmouth Sr. H. S.	136	37	.272	103	28	.272
Somersworth H. S.	57	15	.263	47	13	.277
Kingswood Reg. H. S.	17	5	.294	34	9	.265
Manchester Skill Center	78	22	.282	38	10	.263
Totals	605	166	--	438	119	--

For males the population was largest at Portsmouth Senior High (136 leavers) and lowest at Nashua High (18 leavers). For females, a similar pattern can be observed: there were 103 leavers at Portsmouth and 3 from Nashua. For both males and females, the number of leavers reflects the size of the program at each site as well as a host of other factors.

Sampling Design. In order to select a sample of students that was both statistically representative of the population and economically feasible, it was decided to employ a stratified random sampling strategy in which school and sex of student would be weighted. That is, we wanted a final sample which would allow us to make valid comparisons between males and females. In addition, we wanted students to be sampled in proportion to the size of the leaver population at each school, so that both large and small programs would be fairly represented.

With a population of approximately 1,100, it was determined (Krejcie & Margan, 1970) that a sample size of 285 (approximately 26 percent of the population) was needed. Table 3-1 shows the details of the sampling statistics. In order to sample students as outlined above, 166 males and 119 females were randomly selected. The actual sampling was done by creating twenty separate computer files (one for each school/sex combination) and employing a random number generation algorithm in conjunction with the Statistical Package for Social Sciences (SPSS). The sampling strategy yielded a sample which was representative of sex of student and leaver population size.

Analytic Sample. In any survey the return rate is never 100%. Therefore the analytic sample is usually considerably smaller than the number of questionnaires which were mailed. As Table 3-2 shows, the overall response rate for this mailed questionnaire survey was 15.44 percent. There was much variation in response rate by school. Fifty percent of Nashua's leavers (n=6)

responded, as compared to 5.26% of Alvirne High's leavers (n=57). The final analytic sample consisted of 44 valid questionnaires.

Characteristics of the Sample. In regard to sex of the respondents, exactly half were males and half were females. This .50/.50 rate is close to the .58/.42 rate specified in the sampling design. However, the data reveal that females are slightly overrepresented and males slightly underrespresented in the final analytic sample.

Table 3-2
Number of Questionnaires Sent and Returned
by School and Sex of Student

School	Males		Females		Response Rate
	Sent	Returned	Sent	Returned	
Berlin High	7	2	7	2	28.57
Kennett High	15	2	7	1	13.64
Exeter Area High	20	2	10	0	6.67
Alvirne High	34	3	23	0	5.26
West High	6	0	11	1	5.88
Nashua High	5	2	1	1	50.00
Portsmouth Sr. High	37	3	28	10	20.00
Somersworth High	15	3	13	3	21.43
Kingswood Reg. High	5	2	9	4	42.86
Manchester Skill Ctr.	22	3	10	0	9.37
Totals	166	22	119	22	15.44

Table 3-3 describes the analytic sample in regard to continuation status and sex of student. From the data it is evident that about 41% of the sample consists of students who withdrew for known and unknown reasons; 43% were program "switchers" who left a vocational program and enrolled in another program at the same school; and 16% had completed school but not the vocational program. Therefore the sample adequately reflects the full variety of leavers which are defined by the Division's continuation status coding categories.

Table 3-3
Number of Questionnaires Returned
By Continuation Status and Sex of Student

Continuation Status		Males	Females	Total
03	Completed school but not vocational program	3	4	7
04	Transferred to another program within school district	11	8	19
05	Transferred to another school	0	0	0
06	Withdrew: unsatisfactory academic performance	0	1	1
07	Withdrew: economic reasons	1	0	1
08	Withdrew: reason known but not listed above	5	5	10
09	Withdrew: reason unknown	2	4	6
	Missing Data	0	0	0
	Totals	22	22	44

The male subsample was somewhat older than the female sample; the average age for the male sample was 18 years, as compared to 17 years for the female subsample. Table 3-4 shows the number of respondents by age and sex.

Table 3-4
Number of Questionnaires Returned
by Age and Sex of Student

Age in Years	Males	Females	Total
16	2	1	3
17	4	8	12
18	9	6	15
19	4	4	8
20	3	2	5
Missing Data	0	1	1
Totals	22	22	44

Table 3-5 shows the respondent's educational status as determined by self-report. Thirty-two percent of the sample reported that they had not yet graduated from high school while 59% reported that they had. Data on educational status was omitted by the remaining 9% of the sample.

Table 3-5
Number of Questionnaires Returned
by Educational Status and Sex of Student

Educational Status	Males	Females	Total
Sophomore, did not complete year	1	0	1
Sophomore, completed year	2	1	3
Junior, did not complete year	2	0	2
Junior, completed year	4	3	7
Senior, did not graduate	1	0	1
Senior, graduated 1983	8	13	21
Senior, graduated 1982	1	0	1
College student	0	4	4
Missing Data	3	1	4
Totals	22	22	44

Sample Adequacy. While the survey response rate was considerably lower than desired, available data indicate that both males and females are adequately represented. Respondents covered the full spectrum of educational status, age, school and continuation status. For the purposes of the present research, we can consider the sample adequate for subgroup analysis by sex. However for other variables such as program type, educational status, age, and continuation status, there are too few respondents within each category to allow generalizations to be made in reference to the population of interest.

Instrumentation

Instrumentation for the survey consisted of a carefully developed, four-page Participant Questionnaire. The questionnaire was developed specifically for the present study and contained 16 items, six of which had multiple parts. Questions were designed to measure a variety of categories as shown in Table 3-6 below.

Table 3-6
Questionnaire Content

Category	Question Number	Number of Variables
Demographic	1	1
Academic	2	1
	3	1
	6	1
	7	1
	8	1
Communication	5	11
	11	11
Economic	12	4
Employment	13	1
	14	1
	15	1
Future Plans	16	1
Attitude toward Program	10	25
Motivation to Enroll	4	15
Motivation to Leave	9	15

In order to minimize respondent time and to obtain specific information, most questions were of a fixed-format variety. It was hoped that the questionnaire could be completed by the average vocational program leaver in 10 minutes or less. A copy of the questionnaire is included in Appendix B.

Procedure

All questionnaires were mailed out to students on July 8, 1983. Enclosed with each questionnaire was a stamped, addressed return envelope and a cover letter which explained the purpose of the study. Students were asked to complete the questionnaire and return it no later than July 20. The deadline for returns was later extended to July 29 because of the low response rate.

Following the receipt of the questionnaires, each was edited to ensure accuracy of the data prior to data entry. Missing data codes were supplied where needed. Data were then entered into a file on the University of New Hampshire Research Computing Center's Prime 750 computer from a remote terminal. Additional data (which had been obtained from Vocational Report MIS-5R) was then merged with the questionnaire data. The resulting raw data file contained data from two sources. An SPSS system file was created from the raw data file for the analysis phase. All analyses were conducted with SPSS, Version M, Release 9.1.

Results and Discussion

In this section, a complex pattern of results will be presented and discussed. To help the reader understand this large quantity of information, the more complex data will be presented

later in the section. The following overall structure will be followed:

1. Educational Patterns
2. Employment Patterns
3. Attitudes toward Vocational Programs
4. Motivation to Enter a Vocational Program
5. Motivation to Leave a Vocational Program
6. Relationship Between Program Entry and Exit Motivation
7. Predicting Motivation to Leave a Vocational Program

Educational Patterns

Grade Point Average. We used two measures of academic achievement: overall high school GPA, and GPA in vocational courses alone. In their overall high school GPA, female leavers were slightly - but not significantly - higher than males (2.32 for males, 2.68 for females). When looking at only vocational courses, however, male leavers averaged 2.86 versus the females' 3.14. The difference between the sexes is significant even though the correlation between high school GPA and vocational GPA is moderately high ($r=.68$, $p<.005$).

Program Enrollment. Students were asked what they did when they left the vocational program. Half stayed in school; of this group nine changed vocational programs, six took college preparatory courses, six took general academic courses, and one transferred to another school. Another 38.6% left school altogether and did not indicate what they were doing instead. Another group (6.8%) left school but indicated that they left in order to work.

Finally 4.5% indicated that they did something else than go to school or work, but they did not elaborate further.

Assuming that these percentages are reflective of the larger population of leavers, the projection shown in Table 3-7 can be made.

Table 3-7
Projected Actions of 1981-1982 Leaver Population At Ten Sites

Action After Leaving Vocational Program	Sample Percentage	Population Projection
Stayed in School (50%)		
Enrolled in another vocational program	20.5	214
Enrolled in college preparatory courses	13.6	142
Enrolled in general academic courses	13.6	142
Changed schools	2.3	24
Left School (45.4%)		
Left to go to work	6.8	71
Left for unknown reason	38.6	403
Other (4.6%)	4.5	47
Totals	100.0	1,043

The population projection in Table 3-7 refers to the number of program leavers from ten sites who can be expected to have chosen the indicated course of action. It should be emphasized that this is only an estimate made from the best available data.

Future Plans. We also asked respondents to tell how they planned to continue their education or training in the future. Of the 44 respondents, 22.7% planned to attend a 2-year vocational college and 25.0% planned to attend a 4-year college. Another 4.5% wanted to enroll in an apprenticeship program, and 11.4% wanted to attend a training program sponsored by industry. Desire for training through the military was shown by 4.5%. Another 9.1% had other plans; 4.5% were undecided, and 9.1% did not respond to the question. In summary, at least 75% of the sample had specific plans for further education or training.

Employment Patterns

Work Seekers. Of the 44 respondents, 10 were seeking full-time work; five were seeking part-time work; 24 were not seeking work; and five did not respond. It should be noted that many of these people were employed and for that reason were not seeking a job.

Workers. A full 83.7% of the sample was employed at the time the survey was conducted. Seventeen (38.6%) held summer or other temporary jobs. Nine held part-time permanent jobs, and 10 held full-time permanent jobs. Seven reported that they were not working. Only one respondent failed to complete this item.

Pay Rates. The 35 respondents who are employed report receiving an average pay rate of $4.08 per hour. Pay rate is further broken down in Table 3-8. At an average of $4.40 per hour, males as a group earn 63 cents an hour more than females, who average $3.77 an hour. However, there was much more variation in

pay rate for males than for females, and the apparently large gap is not statistically significant. Part-time workers reported earning less than those with summer jobs or other temporary jobs. As expected, full-time permanent workers earned more per hour than other workers did. When pay rate is examined in relation to the students' grades in vocational courses, it is apparent that the best students get the highest hourly wage. "A" students averaged more than a dollar an hour in pay over "B" students. The differential between "B" and "C" students was 61 cents per hour.

Table 3-8
Average Hourly Pay Rate in Dollars
for Respondents who Work (N=35)

Independent Variables	Mean	SD	N
By Sex[a]			
Males	4.40	1.70	17
Females	3.77	0.90	18
By Work Status			
Temporary	4.06	1.58	17
Part-time permanent	3.49	0.71	9
Full-time permanent	4.72	1.26	9
By Vocational GPA			
A	4.73	2.33	8
B	3.67	0.68	17
C	4.28	1.19	9
D	4.00	0.00	1

[a]Despite the apparent large difference in average pay rate between males and females, a one-way ANOVA revealed that the variances did not differ significantly.

Attitudes Toward the Vocational Program

To find out what students thought about various aspects of the vocational programs they had left, a multi-part item was included in the questionnaire. First the responses to these items will be discussed. Then the seven indices that were constructed using many of these items will be explained.

Comparative statistics for the 25 items, broken down separately for males and females, are given in Table 3-9.

Attitudinal Items. In general, the leavers demonstrated positive attitudes toward their vocational programs. Males and females responded similarly on many items, but there were some apparent differences:

- Females tended to have slightly more positive attitudes overall, but not to a statistically significant degree.
- Males were much more likely than females to express regret about leaving the program.
- Females were somewhat more likely than males to feel that they were learning useful skills in the program.
- Females tended to have expectations about the program which were more consistent and accurate than did males.
- Males were a little more likely to feel disinterested during the program than were females.

Table 3-9
Means and Standard Deviations for Variables which
Assess Students' Attitudes Regarding Their Vocational Program

Variable Number		Questionnaire Item 10, Parts a through z	Males			Females		
			Mean	SD	N	Mean	SD	N
1	a.	The instructors were knowledgeable and well informed.	3.32	.89	22	3.64	.49	22
2	b.	The instructors knew how to get the material across to students.	3.09	.97	22	3.32	.57	22
3	c.	The instructors seemed to have planned well for class time.	2.86	.64	22	3.23	.69	22
4	d.	The instructors gave enough individual attention to students.	2.91	.92	22	3.19	.87	21
5	e.	The instructors established good relationships with students.	3.27	.77	22	3.45	.74	22
6	f.	The instructors taught valuable skills.	3.32	.78	22	3.59	.50	22
7	g.	There was very little wasted time in the program.	2.86	.89	22	3.00	.93	22
8	h.	Most of the time I felt bored and unmotivated.	1.91	.87	22	1.59	.73	22
9	i.	During the program I lost interest in that vocational area.	1.77	.87	22	1.64	.85	22
10	j.	I was generally happy in the program.	3.05	.79	22	3.32	.57	22
11	k.	I sometimes regret having left the program.	3.24	.89	21	2.47	.87	17
12	l.	I'll be able to use the skills I learned some time in the future.	3.50	.80	22	3.68	.48	22
13	m.	I regret having enrolled in the program in the first place.	1.32	.48	22	1.27	.55	22
14	n.	My time in the program helped me find out if it was right for me.	3.36	.58	22	3.23	.61	22
15	o.	I felt that I was learning useful skills in the program.	3.27	.77	22	3.59	.67	22
16	p.	The program was different than I expected it to be.	2.41	.96	22	2.18	.79	22
17	q.	I was unsure about the program when I first enrolled.	2.43	.81	21	2.29	.72	21
18	r.	The instructors were enthusiastic about the things they taught.	2.82	.79	22	3.16	.69	19
19	s.	I enrolled in the program because I really wanted to do it.	3.55	.51	22	3.62	.51	21
20	t.	My feelings about the program changed after a while.	2.45	.91	22	2.00	.84	21
21	u.	My overall opinion of the program is positive.	3.27	.63	22	3.43	.60	21
22	v.	In the program I was with others who were a lot like me.	2.86	.99	22	3.10	.89	21
23	w.	Often I felt out of place in the program.	2.05	1.00	22	1.81	.81	21
24	x.	The vocational program was well managed and well organized.	2.82	.73	22	3.14	.73	21
25	y.	The vocational instructors were generally helpful to me.	3.23	.81	22	3.43	.68	21

Note. The scale used for these items was: 4 = Strongly Agree; 3 = Agree; 2 = Disagree; 1 = Strongly Disagree

Attitudinal Indices. The seven attitudinal indices which were constructed are described below. For further information about the psychometric properties of these indices, the reader is referred to Appendix C.

Instructor Skill - the overall teaching ability of the instructors.

Instructional Organization - the ability of the instructor and staff to organize time, materials and content matter for appropriate instruction.

Student-Teacher Relations - the degree to which the instructor is aware of and responsive to the student as a person.

Ambiguity about the Program - the degree to which a student has conflicting beliefs, attitudes or opinions about the vocational program.

Attitude toward the Program - the general overall attitude toward the program, taken as a whole.

Change in Attitude toward the Program - the degree to which Attitude toward the Program changes during the course of the program.

Value of the Program - the degree to which the student believes the program will help him obtain a future goal.

Table 3-10 displays data on these seven indices by sex. Overall the data indicate that:

- Males and females both had very positive views of their instructor's teaching skills and abilities.
- Females had positive opinions of the overall management of instruction; males' opinions were not as positive as were those of the females.
- Males and females both felt that the student-teacher interactions in their vocational class were positive and helpful.
- Males had slightly more ambiguity about their vocational program than did females.

- The overall attitude toward the program was very positive for males and females.
- Once in the program, males were a little more likely to change their opinions and attitudes toward the program than were the females.
- Both males and females believed the program would help them accomplish other goals and would be of value to them in the future.

Table 3-10
Means and Standard Deviations for Derived Indices Which Measure Seven Attitudinal Factors

Index Name	Males			Females		
	Mean	SD	N	Mean	SD	N
Instructor Skill	3.42	.79	16	3.68	.42	15
Instructional Organization	2.74	.76	13	3.12	.83	16
Student-Teacher Relations	3.09	.78	22	3.31	.75	21
Ambiguity about Program	2.43	.76	21	2.26	.66	21
Attitude toward Program	3.16	.62	22	3.38	.50	21
Change in Attitude toward Program	2.11	.83	22	1.83	.71	21
Value of Program	3.39	.65	22	3.64	.52	22

Note. One-way ANOVAS revealed no significant differences between males and females for any of the seven variables. Index values range from a low of 1 ("strongly disagree") to a high of 4 ("strongly agree").

Relationships Among Attitudes. How do these seven attitudes relate to one another? This question can be answered by referring to the intercorrelation matrix in Table 3-11. The three key variables here are Instructor Skill, Instructional Organization, and Student-Teacher Relations - the heart of the basic

educational process. These three variables are strongly correlated. The overall pattern found here is extremely consistent with the findings of two decades of educational research on instructional evaluation.

- Students with a positive attitude toward the vocational program had a strong tendency to give favorable reactions on Instructor Skill, Instructional Organization and Student-Teacher Relations.
- Students who felt that the vocational program was of great value to them also tended to give favorable reactions on these three indices.

Table 3-11
Correlations Among Derived Attitudinal Variables

Variable Number and Name		Variable Number						
		1	2	3	4	5	6	7
1	Instructor Skill	1.000	.756*	.716*	.098	.602*	-.361*	.693*
2	Instructional Organization		1.000	.718*	-.117	.774*	-.577*	.536*
3	Student-Teacher Relations			1.000	-.147	.538*	-.409*	.485*
4	Ambiguity about Program				1.000	-.117	.357*	-.019
5	Attitude toward Program					1.00	-.535*	.646*
6	Change in Attitude toward Program						1.000	-.307
7	Value of Program							1.000

* $p<.05$

Factors Affecting Program Entry

When we first began thinking about factors which would be likely to cause students to leave a vocational program, it seemed reasonable to suspect that students might leave for reasons which were related to their motivation to enter the program. Therefore, acting on the assumption that program exit behavior is complex and multi-faceted, we included a 15-part questionnaire item

which measures students' reasons for entering a vocational program.

Motivational Items. Motivational items are given in Table 3-12 along with related descriptive statistics. A number of items stand out as being especially salient reasons for enrolling for many students: b, c, d, e, h and m are the most important ones for both males and females.

b. I liked doing it.
c. I was already interested in it.
d. I was considering the vocational area for a career.
e. I wanted to learn the skills for my personal use.
h. I thought the program would help me get a job.
m. I thought I would enjoy the program.

There were three items - j, k and l - which were not especially important reasons for either males or females, but males rated them as more important than did females.

j. The program was suggested by a teacher or counselor.
k. I had some experience in the vocational area already.
l. I had seen the vocational center, and I liked it.

Motivational Indices. To reduce the number of variables to a more manageable number and to enable more meaningful analyses, three derived indices were constructed. For more complete psychometric information about these indices, the reader is referred to Appendix C.

Career Orientation (CAO) - Items 4c, 4d, 4h, 4n
Respondents who score high on this scale show a high degree of concern for their future and an ongoing interest in a specific vocational area.

Table 3-12
Means and Standard Deviation for Items Which Assess
Students' Reasons for Entering a Vocational Program

Questionnaire Item 4, Parts a through o	Males			Females		
	Mean	SD	N	Mean	SD	N
a. Another student told me it was a good program.	1.55	.69	20	1.38	.59	21
b. I liked doing it.	2.57	.51	21	2.81	.51	21
c. I was already interested in it.	2.45	.67	22	2.59	.67	22
d. I was considering that vocational area for a career.	2.36	.85	22	2.05	.92	21
e. I wanted to learn the skills for my personal use.	2.65	.59	20	2.64	.58	22
f. I wanted a program that was easy.	1.26	.56	19	1.19	.51	21
g. The program courses fit well into my schedule.	1.80	.89	20	1.68	.84	22
h. I thought the program would help me get a job.	2.10	.89	21	2.14	.79	21
i. I thought the program would help me in a four-year college.	1.74	.86	19	1.86	.79	21
j. The program was suggested by a teacher or counselor.	1.60	.88	20	1.19	.40	21
k. I had some experience in the vocational area already.	1.91	.87	22	1.57	.68	21
l. I had seen the vocational center, and I liked it.	2.00	.92	20	1.62	.86	21
m. I thought I would enjoy the program.	2.70	.57	20	2.77	.43	22
n. I thought the program would help me in a two-year college.	1.64	.79	22	1.65	.81	20
o. I wanted to be with the other students in the program.	1.30	.66	20	1.33	.58	21

Note: The scale used for these items was: 3 = Major Reason; 2 = Minor Reason; 1 = Not a Reason

Convenience Orientation (COO) - Items 4f, 4g, 4l, 4o
Respondents who score high on this scale tend to be concerned with getting through the easy way, being with friends, and with short-term tangible objectives of a non-academic nature.

Enjoyment Orientation (ENO) - Items 4b, 4k, 4m
Respondents who score high on this scale tend to want a vocational program that they enjoy. Learning new skills is not their primary concern.

Means and standard deviations for these three motivational indices are displayed in Table 3-13. There are no significant differences between males and females on any of the indices. Overall, the data indicate that students consider enjoyment of a vocational program to be a little more important than career relevance. Convenience concerns are least important.

Table 3-13
Means and Standard Deviations for Derived Indices Which Measure Program Entry Factors

Index Name	Males			Females		
	Mean	SD	N	Mean	SD	N
Career Orientation (CAO)	1.77	.60	12	1.70	.44	12
Convenience Orientation COO)	1.42	.35	16	1.35	.34	18
Enjoyment Orientation (ENO)	2.04	.28	15	2.25	.31	21

Note. One-way ANOVAS revealed no significant differences between males and females. Index values range from a low of 1 ("Not a reason") to a high of 3 ("A Major Reason").

Communication. Few students make a decision to enter a vocational program without talking with someone else, even if it is just a brief chat with a friend or classmate. We asked students who they talked with before enrolling in a vocational program. The results are shown in Table 3-14. Students were most likely to seek the advice of a (1) a friend, (2) vocational teacher, (3) a parent, or (4) a school guidance counselor (in order of frequency of contact). Administrative personnel were not frequently contacted.

Table 3-14
People Who Influenced Students' Decision
to Enter a Vocational Program

Person	Number of Students Responding "Yes"		
	Males	Females	Combined
Mother or father	7	7	14
Brother or sister	1	4	5
Relative (cousin, aunt, uncle)	0	1	1
Friend	9	10	19
Teacher of vocational courses	8	8	16
Teacher of regular courses	3	2	5
School guidance counselor	6	6	12
Vocational guidance counselor	1	2	3
Vocational director	0	3	3
Principal or assistant principal	0	1	1
Other	0	0	0

Note. Data was obtained from questionnaire item 5.

Factors Affecting Program Exit

Although we believe it is important to understand factors which influence program entry, our main concern is to understand why students leave. We included a 15-part item in the questionnaire (Item 9) to determine why students leave. The item was parallel in format to the question regarding program entry, and the results are displayed here in a similar fashion.

Motivational Items. Table 3-15 includes the items and descriptive statistics for Item 9. Two points can be made.

First of all, there are no items rated at or above a 2 on the scale. This suggests (1) that students are not able or willing to describe their motivation to leave as well as their motivation to enter; or (2) that the list of items does not contain all the important reasons for leaving.

Second, there were two items which seemed to stand apart from the rest: 9j and 9k. Item 9j is much higher for males and suggests that a primary reason for program attrition in males is change of career goal. Item 9k reveals little differences between males and females. The results for this item suggest that the second most important reason why students leave their vocational program is that they have learned all the skills they wanted to learn. It is interesting to note that males are somewhat more likely to attribute their leaving the program to poor teaching than are females (Item 91).

Table 3-15
Means and Standard Deviations for Variables Which
Assess Students' Reasons for Leaving a Vocational Program

Variable Number		Questionnaire Item 9, Parts a through o	Males			Females		
			Mean	SD	N	Mean	SD	N
1	a.	My grades were not good enough.	1.30	.66	20	1.06	.25	16
2	b.	The problem didn't interest me; I got bored.	1.25	.44	20	1.12	.34	16
3	c.	Another course or program was more interesting.	1.30	.66	20	1.12	.34	16
4	d.	I was asked to leave the program.	1.00	.00	19	1.06	.25	16
5	e.	I wasn't learning anything new.	1.25	.55	20	1.00	.00	15
6	f.	I had a schedule conflict.	1.21	.63	19	1.19	.54	16
7	g.	I didn't get along very well with the teacher.	1.20	.62	20	1.06	.25	16
8	h.	I didn't get along very well with the students.	1.05	.23	19	1.00	.00	16
9	i.	I found the classwork too difficult.	1.05	.23	19	1.12	.34	16
10	j.	I changed my career goal.	1.86	.96	21	1.19	.40	16
11	k.	I gained all the skills I wanted to learn.	1.53	.84	19	1.56	.81	16
12	l.	The teacher could not teach very well.	1.35	.67	20	1.00	.00	16
13	m.	The facilities were not adequate.	1.15	.37	20	1.00	.00	16
14	n.	I discovered a new vocational interest.	1.25	.64	20	1.18	.39	17
15	o.	Travel from my home high school was a hassle.	1.26	.65	19	1.00	.00	16

Note. The scale used for these items was: 3 = Major Reason; 2 = Minor Reason; 1 = Not a Reason

Motivational Indices. Three composite indices were constructed from several of the motivational items. The psychometric qualities of these indices are further described in Appendix C.

Program Holding Power A - Items 9b, 9c, 9j, 9l
Students scoring high on this scale tended to get bored during the programs and to become more interested in another course or program. They were likely to report changing their career goal.

Program Holding Power B - Items 9e, 9m, 9n, 9o
Students who score high on this scale were likely to report concern over operational details of the program (travel) or inadequate facilities. They were also likely to report finding new vocational interests but not necessarily career interests.

Achievement Difficulty - Items 9a, 9f, 9h, 9i
Students scoring high on this scale reported earning low grades and finding classwork too difficult. They also reported difficulty in getting along with other students.

Table 3-16 contains means and standard deviations for these three variables. No significant differences between males and females were found. The most surprising finding is that students did not readily identify the reasons why they left the program. In the statistical sense, there was relatively little variance in program exit motivational variables. This is a sharp contrast with program entry motivational variables. The reason for this phenomenon is unknown. It is especially puzzling because students left programs more recently than they entered them - ruling out memory as a plausible explanation.

Table 3-16
Means and Standard Deviations for Derived Indices
Which Measure Program Exit Factors

Index Name	Males			Females		
	Mean	SD	N	Mean	SD	N
Program Holding Power A	1.37	.49	19	1.13	.19	16
Program Holding Power B	1.11	.21	18	1.02	.06	15
Achievement Difficulty	1.07	.19	18	1.09	.20	16

Note. One-way ANOVAS revealed no significant differences between males and females. Index values range from a low of 1 ("not a reason") to 3 ("major reason")

Communication. We asked students to tell us who they talked with before deciding to leave their vocational programs. As Table 3-17 reveals, students reported talking to (1) a school guidance counselor, (2) a friend, (3) a parent, or (4) a vocational teacher (in order of frequency). Apparently there was less communication about leaving the program than about enrolling in it. In addition, students seem to turn to the same groups of people for advice about entering and leaving a program.

Table 3-17
People Who Influenced Students' Decision
to Leave a Vocational Program

Person	Number of Students Responding "Yes"		
	Males	Females	Combined
Mother or father	4	1	5
Brother or sister	1	1	2
Relative (cousin, aunt, uncle)	0	1	1
Friend	5	1	6
Teacher of vocational courses	3	1	4
Teacher of regular courses	0	1	1
School guidance counselor	5	3	8
Vocational guidance counselor	2	1	3
Vocational director	2	1	3
Principal or assistant principal	1	1	2
Other	0	1	1

Note. Data was obtained from questionnaire item 11.

Economic Items. What role does economic need play in the attrition process? We asked students a multi-part question to find out if a need for money was related to leaving the program. Among the students we sampled, economics was found to be rather unimportant. However it is interesting to note that males earned higher values on these variables (see Table 3-18) indicating a slightly higher economic motivation to leave a vocational program than did females. Given current societal values, this finding is to be expected.

Table 3-18
Means and Standard Deviations for Economic Variables
by Sex of Student

Economic Variables	Males			Females		
	Mean	SD	N	Mean	SD	N
I left so I could earn money to help support my family.	1.17	.51	18	1.00	.00	15
I left so I could earn money to spend on myself.	1.22	.55	18	1.07	.26	15
I left so I could earn money to put in the bank.	1.33	.77	18	1.07	.26	15
I left for some other money-related reason.	1.53	.90	19	1.13	.52	15
Economic Total (Derived 4-item index)	1.23	.39	17	1.07	.18	15

Note. The scale used for these items was: 3 = Major Reason; 2 = Minor Reason; 1 = Not a Reason

Predicting Program Exit Motivation

So far, we have examined a large number of variables with rather straight-forward statistical procedures. At this point it is appropriate to report the results of some multivariate analyses which will inform us about the relative importance of a host of variables in determining a student's motivation to leave a vocational program. It should be noted that we are not trying to predict whether or not a student will leave a program in the behavioral sense; that is not possible in the present research because we have data available from leavers only. We will have to be content with understanding the motivational dynamics of student attrition. The assumption underlying this line of inquiry is that motivation to leave a program is directly and causally related to the subsequent behavior of leaving a program. Therefore if we can understand the motivation, we will be well on our way toward understanding how to design more effective vocational intervention strategies.

Regression Analyses. In order to accomplish the objective above, we employed multiple linear regression analysis. This is a commonly used statistical procedure in which one finds the best linear combination of independent variables to predict one dependent variable.

For the present application, we report on three separate analyses - one for each of the three program exit motivational variables. We employed the same 10 independent variables in each analysis. Because these variables fell into five natural categories, we can examine five broad areas of influence upon motivation to leave a vocational program. As shown in Table 3-19, these categories are demographic, academic, communication, entry motivation, and economic.

Table 3-19
Proportion of Explained Variance in Three Program Exit Factors Attributable to Independent Variables in Five Categories

Dependent Variables	R	R^2	Demographic		Academic		Communicaton		Entry Motivation			Economic
			AGE	SEX	VOC GPA	HS GPA	ENTR	EXIT	CAD	COO	EMO	ECONTOT
Holding Power A	1.00	1.00	.03	.21	.00	.01	.15	.09	.48	.01	.01	.01
Holdings Power B	.99	.98	.13	.11	.09	.04	.00	.03	.19	.04	.21	.14
Ach. Difficulty	.94	.89	.20	.03	.08	.25	.26	.00	.03	.01	.00	.03

The analyses reveal several interesting things:

- Variance in Holding Power A and Holding Power B can be almost perfectly accounted for by the ten variables in the regression equation. However the number of cases is quite small, and this situation makes prediction relatively easy.
- Variance in Academic Difficulty was also easily accounted for.

Implications. By summing the variance estimates within each broad independent variable category, we can get a better picture of the relationships involved. The results of this procedure are presented in Table 3-20.

Table 3-20
Summary of Explained Variance in Three Program Exit Factors Attributable to Five Categories of Independent Variables

Independent Variable Category	Dependent Variable		
	Holding Power A	Holding Power B	Academic Difficulty
Demographic	.24	.24	.23
Academic	.01	.13	.33
Communication	.24	.03	.26
Entry Motivation	.50	.44	.04
Economic	.01	.14	.03
Total Explained Variance	1.00	.98	.89

As Table 3-20 reveals, the resulting patterns are complex.

- The Demographic factors are relatively important. They determine almost a quarter of the variance in each of the three program exit motivational variables.
- The Academic factors are of no value in predicting Holding Power A; of some value in predicting Holding Power B; and of great value in predicting Academic Difficulty.

- Communication variables accounted for almost a quarter of the variance in Holding Power A and Academic Difficulty.

- Entry Motivation variables were of tremendous importance in predicting the two Holding Power variables but of virtually no importance in predicting Academic Difficulty.

- Economic variables were of relatively little predictive use except in Holding Power B.

What are the economic and programmatic implications of these patterns?

- Age and sex of the student have an impact upon students' motives to leave a program. These demographic factors are not subject to change through the educational system and cannot be externally controlled.

- Entry motivation variables are the single most important set of variables for understanding the holding power of a program. Researchers and practitioners alike need to pay more attention to the attitudes and beliefs students have about the program upon entry. The importance of these variables suggests that guidance and counseling efforts before and at program entry may have a very large impact upon vocational program attrition and subsequent career choices. Communication variables are also important.

- The economic reasons, in general, do not play much of a role in the average student's decision to leave a vocational program. No doubt some leave for economic reasons, but this number is estimated to be quite low.

Section IV
CONCLUSIONS AND RECOMMENDATIONS

In this section of the report, we will discuss some of the implications of the interview and questionnaire data we gathered and relate it to the data previously reported by Profile Development Associates (1982). We will offer recommendations in three general categories: a) Program Planning and Policy Development; b) Program Improvement; and c) Program Evaluation and Research.

Conclusions Regarding the Research Questions

1. Are motivation to enter and motivation to leave a vocational program unified (unidimensional) concepts, or are they more complex (multidimensional) concepts?

   Conclusion: Both motivation to enter and leave a vocational program are multidimensional concepts. We derived three variables for each of the two kinds of motivation (although the number derived was somewhat arbitrary).

2. What are the factors which affect motivation to leave a vocational program during the school year?

   Conclusion: Our analyses showed that background (demographic) factors affected all three facets of motivation to leave. Academic, Communication and Program Entry Motivation factors influenced various facets. The Economic factor was a minor influence. When we asked students why they entered and why they left, we found, surprisingly, that they could pinpoint the reasons for entry quite clearly but not as clearly the reasons for leaving. Given this fact, coupled with students' actual responses and the findings of Profile Development Associates (1982), we conclude that the primary reasons for program attrition during the school year and during the summer alike are decisions about career directions, new vocational choices and related personal decisions. There is no evidence to suggest that program attrition is

caused by weak programs or poor teaching on a program-wide basis, nor is there any evidence that vocational program leavers are poorly motivated to learn.

3. Is the vocational student's motivation to enter a vocational program related to his or her motivation to leave a program?

   Conclusion: In many cases the two decisions are strongly related. Some students enter a program as a result of pre-vocational experience, and then only after having given the decision some serious thought. Others tend to make the decision to enroll based upon somewhat more superficial factors, with less attention to the long-term implications of the choice.

4. Do males and females differ systematically in demographic, economic, attitudinal, motivational or other variables under study?

   Conclusion: Overall, males and females did not differ systematically in these areas. Where there were occasional small differences, those differences could be attributable to sampling error (e.g., small sample size) rather than to true differences in the population of program leavers. Even the rather large mean differences in pay for those programs who are currently working cannot be considered statistically significant. That is, it cannot be inferred that large differences in the total population of 1981-1982 program leavers do indeed exist.

Other Conclusions and Recommendations

5. We recommend that the role and influence of guidance and counseling receive more emphasis on a program-wide basis. Communication factors do influence students' motivation to leave, and vocational counseling can have a greater influence than it is currently having upon students' choices. We found vocational counseling to be underutilized by students (at no fault of the vocational counselors). Students need

to be shown how they can benefit from pre-enrollment or pre-exit guidance. Perhaps more formalized procedures need to be developed at some schools or centers. We recommend that greater emphasis be placed upon pre-enrollment guidance and counseling.

6. We did not examine the types of enrollment procedures used at the various local high schools or regional vocational centers. However we believe that the kinds of enrollment procedures used in various schools and programs may be linked to the noncompletion rate. We recommend incorporation of this factor in future follow-up research, when and where feasible.
7. In Profile Development Associates' study and in the present one, many non-completers reported that the vocational programs they enrolled in turned out to be different than they expected. Because of this finding, we recommend that a greater effort be made to accurately communicate the program content to students before enrollment and again during the first few class sessions.
8. Students at all interview sites reported attitudes toward vocational programs which were generally positive. The same was true for the student questionnaire. We conclude that the positive attitudes are a result of good teaching and appropriate vocational programs, and that any negative attitudes are due to local - not program-wide - factors.
9. There were not sufficient numbers of handicapped students in our sample to determine whether handicap status was related

to any of the variables of interest in the study. Since handicap status was found to be related to program completion in Spooner's (1980) study, we recommend that the RCU include this variable in future studies. The same holds true for ethnic origin, another potentially-important background variable.

10. During informal discussions with program administrators and coordinators at several schools, we discovered that there is some confusion about the current termination codes. Some are nonexclusive. In addition, schools have different procedures for obtaining this data (vocational director's secretary vs. vocational teachers). We found that several leavers had enrolled in a program and remained in it for only one or two class periods before switching to a different vocational program. Should these students really be considered to be leavers? We recommend that the RCU review its current categories of termination codes and definitions with involvement of several vocational directors and coordinators. We also recommend that the RCU refine its data collection procedure so that it is more uniform across schools.

11. We recommend that further work be done to explore the different motivational factors which influence some students to leave vocational programs. We suspect that valid profiles can be developed for different "types" of program leavers using data already collected for the present study. Additional analysis and exploration of this data is recommended.

12. We recommend further research of a comparative nature in studying New Hampshire's vocational programs. In particular designs which compare program leavers with program completers would be especially fruitful.

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APPENDIX A

Interview Schedule

1982 Attrition Study
Division of Vocational - Technical Education
INTERVIEW SCHEDULE

Student's Name _____ Interview Date _____

Vocational Program _____ Interviewer _____

SAY: My name is _____. I'm conducting interviews as part of a study to find out why students switch or leave vocational education programs in New Hampshire. I'd like to ask you a few questions about your experience with vocational education.

A1a. First of all, which vocational program were you enrolled in last year? (Show student a list of vocational programs.)

_____

b. When did you begin in the program -- month and year? _____

A2a. Why did you enroll in the program? (PROBE)

b. Who influenced you to enroll in the program?

A3a. And when did you leave the program or switch to another?

Month and year _____

What did you switch to?

A4a. I'd like you to tell me about the program itself. What were its strengths and weaknesses, as you saw them? (PROBE)

A5a. Now I'd like you to tell me about the things that influenced you to leave the program. What would you say was the MAIN REASON? (PROBE)

b. What was the <u>next</u> most important reason for leaving?

c. Were there any other reasons for leaving which you naven't mentioned? (PROBE)

SAY: Now I'm going to read you some statements which apply to the vocational program you were enrolled in. For each statement, I'd like you to tell me whether you strongly agree, agree, disagree, or strongly disagree with the statement.

		(Circle one)			
B1.	The instructors were knowledgeable and well informed.	SA	A	D	SD
B2.	The instructors knew how to get the material across to the students.	SA	A	D	SD
B3.	The instructors appear to have planned things well enough ahead of time.	SA	A	D	SD
B4.	The instructors gave enough individual attention to students.	SA	A	D	SD
B5.	The instructors established good relationships with most students.	SA	A	D	SD
B6.	The instructors taught valuable skills.	SA	A	D	SD
B7.	There was very little wasted time in the program.	SA	A	D	SD
B8.	Transportation was a problem for me.	SA	A	D	SD
B9.	The number of courses offered in my program area was sufficient.	SA	A	D	SD
B10.	Most of the time I felt bored and unmotivated.	SA	A	D	SD
B11.	During the program I lost interest in what I was there to study and learn.	SA	A	D	SD
B12.	I was generally happy in the program.	SA	A	D	SD
B13.	Money was an important factor in my leaving.	SA	A	D	SD
B14.	My parents or other family members influenced me to leave the program.	SA	A	D	SD
B15.	I sometimes regret my decision to leave the program.	SA	A	D	SD
B16.	I'll be able to use some of the skills I learned at some time in the future.	SA	A	D	SD
B17.	I probably shouldn't have enrolled in the program in the first place.	SA	A	D	SD
B18.	My time in the program helped me decide that the area was not the right area for me.	SA	A	D	SD
B19.	I felt that I was learning useful skills in the program.	SA	A	D	SD
B20.	The program was a lot different that I expected.	SA	A	D	SD
B21.	I was unsure about the program when I enrolled.	SA	A	D	SD
B22.	The instructors were enthusiastic about the subjects they taught.	SA	A	D	SD
B23.	I received the kind of guidance I needed.	SA	A	D	SD

B24. The quantity of supplies and materials was sufficient for learning.	SA	A	D	SD
B25. The equipment which was available was up to date.	SA	A	D	SD
B26. I enrolled in the program because I really wanted to.	SA	A	D	SD
B27. My feelings about the program changed after a while.	SA	A	D	SD
B28. Now my overall opinion of the program is positive.	SA	A	D	SD
B29. In the program I was with others who were a lot like me.	SA	A	D	SD
B30. Often I felt out of place in the program.	SA	A	D	SD

SAY: Now I'd like to find out how you're spending your time these days. Are you working, going to school . . . (PROBE)

C1. WORKING → (If not working, skip questions under C1.)

a. Full-time or part time? _____

b. Approximately how many hour per week? _____

c. Where do you work? _____

d. What do you do at your job? _____

e. Why did you seek this job? _____

f. What is your hourly pay rate? _____

g. Do you plan to continue working in the same kind of job for a long time, or would you consider this to be a temporary job?

C2. IN SCHOOL → (If not in school, skip questions under C2.)

a. Full-time or part-time? _____

b. Are you enrolled in a degree or certificate program? What certificate or degree?

_____

c. What are your future plans in regard to continuing your education or training?

C3. OTHER → (Ask these questions if C1 or C2 don't apply.)

a. How are you spending you time these days? (PROBE)

b. What are your plans for the immediate future, say the next few months?

c. How about your plans for the next year or two?

Interviewer's Notes

APPENDIX B

Participant Questionnaire

PARTICIPANT QUESTIONNAIRE
1981-1982 VOCATIONAL EDUCATION
ATTRITION STUDY

1. What is your present age? _____ years *(Write in number of years)* *(16-17)*

2. What was your educational status as of last month (June, 1983)? *(Circle one number)* *(18)*

6 I was a senior this year, and I graduated from high school
5 I was a senior this year, but I did not graduate from high school
4 I was a junior this year, and I completed the junior year
3 I was a junior this year, but I did not complete the junior year
2 I was a sophomore this year, and I completed the sophomore year
1 I was a sophomore this year, but I did not complete the sophomore year

3. Using the list on the back of this page, find the number which corresponds to the vocational program in which you were last enrolled. Write the two-digit program number and the name of the program in the spaces below.

_____ _____ *(19-20)*
Number *Name of Program*

4. What were your reasons for enrolling in the program? *(21-35)*

(Circle one number for each question.)

	MAJOR REASON	MINOR REASON	NOT A REASON
a. Another student told me it was a good program.	3	2	1
b. I liked doing it.	3	2	1
c. I was already interested in it.	3	2	1
d. I was considering that vocational area for a career.	3	2	1
e. I wanted to learn the skills for my personal use.	3	2	1
f. I wanted a program that was easy.	3	2	1
g. The program courses fit well into my schedule.	3	2	1
h. I thought the program would help me get a job.	3	2	1
i. I thought the program would help me in a four-year college.	3	2	1
j. The program was suggested by a teacher or counselor.	3	2	1
k. I had some experience in the vocational area already.	3	2	1
l. I had seen the vocational center, and I liked it.	3	2	1
m. I thought I would enjoy the program.	3	2	1
n. I thought the program would help me in a two-year college.	3	2	1
o. I wanted to be with the other students in the program.	3	2	1

Program Number	Name of Program
01	Agricultural Production
02	Agricultural Supplies and Services
03	Agricultural Mechanics
04	Horticulture
05	Agricultural Resources - Recreation
06	Forestry
07	General Merchandise
08	Diversified Occupations
09	Other Health Education Occupations
10	Care and Guidance of Children
11	Food Management, Production and Service
12	Accounting and Computing Occupations
13	Other Business Data Processing
14	Filing, Office Machines and General Office
15	Steno, Secretarial and Related Occupations
16	Typing and Related Occupations
17	Body and Fender Repair
18	Auto Mechanics
19	Carpentry
20	Drafting Occupations
21	Electrical Occupations
22	Electronics Occupations
23	Graphic Arts Occupations
24	Machine Shop
25	Welding and Cutting
26	Small Engine Repair
27	STEP

5. Did the following people influence your decision to enroll? *(36-45)*

(Circle Y for Yes or N for No)

Mother or father	Y	N
Brother or sister	Y	N
Relative (cousin, aunt, uncle) . .	Y	N
Friend	Y	N
Teacher of vocational courses . . .	Y	N
Teacher of regular courses	Y	N
School guidance counselor	Y	N
Vocational guidance counselor . . .	Y	N
Vocational director	Y	N
Principal or assistant principal .	Y	N
Other (describe below)	Y	N

_____

6. What is the approximate grade average you received in your vocational program?

(Circle one) A B C D F *(46)*

7. What is the approximate grade average you received in all high school courses?

(Circle one) A B C D F *(47)*

8. When you left the vocational program, what did you do? *(Circle one number)*

1 Enrolled in another vocational program
2 Enrolled in college preparatory courses
3 Enrolled in general academic (regular) courses *(48)*
4 Left school altogether
5 Other (Describe here) _____

9. What were your reasons for leaving the program?

(Circle one number for each question.)

	MAJOR REASON	MINOR REASON	NOT A REASON	
a. My grades were not good enough.	3	2	1	*(49-63)*
b. The program didn't interest me; I got bored.	3	2	1	
c. Another course or program was more interesting.	3	2	1	
d. I was asked to leave the program.	3	2	1	
e. I wasn't learning anything new.	3	2	1	
f. I had a schedule conflict.	3	2	1	
g. I didn't get along very well with the teacher.	3	2	1	
h. I didn't get along very well with the students.	3	2	1	
i. I found the classwork too difficult.	3	2	1	
j. I changed my career goal.	3	2	1	
k. I gained all the skills I wanted to learn.	3	2	1	
l. The teacher could not teach very well.	3	2	1	
m. The facilities were not adequate.	3	2	1	
n. I discovered a new vocational interest.	3	2	1	
o. Travel from my home high school was a hassle.	3	2	1	

0. BELOW ARE 26 STATEMENTS WHICH CONCERN THE VOCATIONAL PROGRAM. FOR EACH STATEMENT, CIRCLE ONE NUMBER TO THE RIGHT WHICH BEST DESCRIBES YOUR OPINION. (16-41)

	Strongly Agree	Agree	Disagree	Strongly Disagree
a. The instructors were knowledgeable and well informed.	4	3	2	1
b. The instructors knew how to get the material across to students.	4	3	2	1
c. The instructors seemed to have planned well for class time.	4	3	2	1
d. The instructors gave enough individual attention to students.	4	3	2	1
e. The instructors established good relationships with students.	4	3	2	1
f. The instructors taught valuable skills.	4	3	2	1
g. There was very little wasted time in the program.	4	3	2	1
h. Most of the time I felt bored and unmotivated.	4	3	2	1
i. During the program I lost interest in that vocational area.	4	3	2	1
j. I was generally happy in the program.	4	3	2	1
k. I sometimes regret having left the program.	4	3	2	1
l. I'll be able to use the skills I learned some time in the future.	4	3	2	1
m. I regret having enrolled in the program in the first place.	4	3	2	1
n. My time in the program helped me find out if it was right for me.	4	3	2	1
o. I felt that I was learning useful skills in the program.	4	3	2	1
p. The program was different than I expected it to be.	4	3	2	1
q. I was unsure about the program when I first enrolled.	4	3	2	1
r. The instructors were enthusiastic about the things they taught.	4	3	2	1
s. I enrolled in the program because I really wanted to do it.	4	3	2	1
t. My feelings about the program changed after a while.	4	3	2	1
u. My overall opinion of the program is positive.	4	3	2	1
v. In the program I was with others who were a lot like me.	4	3	2	1
w. Often I felt out of place in the program.	4	3	2	1
x. The vocational program was well managed and well organized.	4	3	2	1
y. The vocational instructors were generally helpful to me.	4	3	2	1

11. Did you talk to the following people about leaving the program before you actually left?

(Circle Y for Yes or N for No) *(42-51)*

Mother or father	Y	N
Brother or sister	Y	N
Relative (cousin,aunt,uncle) . . .	Y	N
Friend	Y	N
Teacher of vocational courses . . .	Y	N
Teacher of regular courses	Y	N
School guidance counselor	Y	N
Vocational guidance counselor . . .	Y	N
Vocational director	Y	N
Principal or assistant principal .	Y	N
Other (describe below)	Y	N

_____

12. Did these economic reasons affect your decision to leave the program? *(52-55)*

(Circle one number for each question)

	MAJOR REASON	MINOR REASON	NOT A REASON
a. I left so I could earn money to help support my family. . . .	3	2	1
b. I left so I could earn money to spend on myself.	3	2	1
c. I left so I could earn money to put in the bank.	3	2	1
d. I left for some other money-related reason (describe)	3	2	1

Reason: _____

_____

13. Are you currently seeking employment? *(Circle only one number)* *(56)*

1 Yes, seeking full-time employment
2 Yes, seeking part-time employment
3 No, not seeking employment

14. Are you currently working? *(Circle only one number)* *(57)*

1 Yes, working at a summer job or temporary job (either part or full time)
2 Yes, working at a part-time permanent job
3 Yes, working at a full-time permanent job
4 No, not working

15. If you are working, what is your hourly pay rate? $ _____ *(Write in)* *(58-62)*

16. What are your plans for further education or training? *(Circle one number)* *(63)*

1 Attend a vocational college (2 years)
2 Attend a 4-year college
3 Enroll in an apprenticeship program
4 Attend a training program sponsored by industry
5 Obtain training through the military
6 I do not plan to continue with education or training
7 Other (Please specify below)

_____

APPENDIX C

Psychometric Information on Derived Indices

Table C-1
Specifications for Derived Indices

Index Name	Index Composition	Alpha[a]
Entry Factors		
Career Orientation	Item 4, parts c, d, h, n	.74
Convenience Orientation	Item 4, parts f, g, l, o	.58
Enjoyment Orientation	Item 4, parts b, k, m	.57
Exit Factors		
Program Holding Power A	Item 9, parts b, c, j, l	.71
Program Holding Power B	Item 9, parts e, m, n, o	.66
Achievement Difficulty	Item 9, parts a, f, h, i	.64
Attitudinal Factors		
Instructor Skill	Item 10, parts a, b, f, y	.91
Instructional Organization	Item 10, parts c, g, x	.81
Student Teacher Relations	Item 10, parts d, e	.86
Ambiguity about Program	Item 10, parts p, q	.70
Attitude toward Program	Item 10, parts j, n	.73
Change in Attitude Toward Program	Item 10, parts i, t	.69
Value of Program	Item 10, parts l, o	.62

[a]Cronbach's alpha is a measure of internal consistency reliability.

Table C-2
Correlations Among Three Program Entry
and
Three Program Exit Derived Variables

Variable Number and Name	Variable Number 1	2	3	4	5	6
1 Career Orientation	1.00	.278	.024	.350*	.122	.030
2 Convenience Orientation		1.00	.058	.191	-.073	.016
3 Enjoyment Orientation			1.00	-.183	-.44*	.141
4 Program Holding Power A				1.00	.295*	.229
5 Program Holding Power B					1.00	.049
6 Achievement Difficulty						1.00

* $p < .05$